

AMENDMENTS TO THE CLAIMS:

Replace the claims with the following rewritten listing:

1. – 50. (Cancelled)

51. (Currently Amended) Method for treatment of a fluid quantity including chemical reacting means above a certain minimum quantity in a catalytic device, said method comprising:

entering said fluid quantity into the catalytic device through an inlet;

directing said fluid quantity through at least three mutually connected passage sections of said catalytic device in which said at least three passage sections include a main reaction passage section heat exchanging in counterflow with a main heat transfer passage section, where the main reaction passage section heat exchanges with at least one of one or more preceding inlet passage sections and one or more succeeding outlet passage sections, wherein at least one section includes catalytic material of one or more kinds in which the catalytic material at least one of reacts with and enhances the reactions of said combustible materials, and wherein at least one of said at least three passage sections comprises a plurality of substantially parallel pipes;

heating or cooling said fluid quantity in said at least three passage sections by said internal heat exchange in said catalytic device between said sections; and

emitting the treated fluid quantity from the catalytic device through an outlet,

where, said fluid quantity is directed through sections related by at least one of a cross-sectional area of said main reaction passage section that is between 0.5 and 100 times a cross-sectional area of said main heat transfer passage section and the inlet or outlet passage sections of the at least three sections are between 0.5 and 100 times the cross-sectional area of said main heat transfer passage section.

52. (Cancelled)

53. (Previously Presented) Method according to claim 51, wherein the fluid quantity is directed through the succeeding passage sections in counterflow.

54. (Previously Presented) Method according to claim 51, wherein further combustible material is added directly or indirectly to the catalytic device.

55. (Currently Amended) Catalytic device for treatment of a fluid quantity including chemical reacting means above a certain minimum quantity, said device comprising:
a container including at least one inlet and outlet for said fluid quantity;
said container further comprises at least three passage sections being mutually connected, where at least one section of said passage sections includes catalytic material of one or more kinds;

wherein the positioning of said passage sections forms at least one internal heat exchanger with mutual heat exchange between the sections;

wherein the at least three passage sections include a main reaction passage section which heat exchanges in counterflow with a main heat transfer passage section of said at least three passage sections, wherein said main reaction passage section heat exchanges with at least one of one or more preceding inlet and one or more succeeding outlet passage sections; and

wherein at least one of said at least three passage sections comprises a plurality of substantially parallel pipes,

wherein at least one of a cross-sectional area of said main reaction passage section is between 0.5 and 100 times a cross-sectional area of said main heat transfer passage section and the inlet or outlet passage sections of the at least three sections are between 0.5 and 100 times the cross-sectional area of said main heat transfer passage section.

56. (Previously Presented) Catalytic device according to claim 55, wherein said catalytic device comprises exactly three passage sections.

57. (Previously Presented) Catalytic device according to claim 55, wherein the at least three sections comprises one or more inlet passage sections positioned above, alongside or outside said main reaction passage section.

58. (Previously Presented) Catalytic device according to claim 55, wherein the at least three sections comprises one or more outlet passage sections positioned above, alongside or outside said main reaction passage section.

59. (Previously Presented) Catalytic device according to claim 55, wherein said main reaction passage section is positioned above, alongside or outside said main heat transfer passage section.

60. (Previously Presented) Catalytic device according to claim 55, wherein at least one of said main heat transfer passage section comprises one or more substantially parallel pipes.

61. (Previously Presented) Catalytic device according to claim 60, wherein said main heat transfer passage section is integrated as a number of pipes in said main reaction passage section.

62. (Previously Presented) Catalytic device according to claim 60, wherein said number of pipes is between 20 and 1000 pipes.

63. (Previously Presented) Catalytic device according to claim 60, wherein said pipes form symmetrical patterns including at least one of triangular, quadrangular, similar patterns, and random patterns.

64. (Previously Presented) Catalytic device according to claim 60, wherein said pipes are surrounded by catalytic material deposited on one or more carrier means.

65. (Previously Presented) Catalytic device according to claim 55, wherein said pipes comprise at least one of a circular, an oval, a triangular, a four-sided, and any similar regular or irregular cross sectional shape.
66. (Previously Presented) Catalytic device according to claim 55, wherein at least one of said three passage sections comprises one or more lamellar plates.
67. (Previously Presented) Catalytic device according to claim 66, wherein said one or more lamellar plates form non-circular canals with a cross sectional shape formed by at least one of triangles, four sided shapes, combinations hereof, and similar shapes.
68. (Previously Presented) Catalytic device according to claim 66, wherein indentations in a surface of said one or more lamellar plates form longitudinal or diagonal patterns.
69. (Previously Presented) Catalytic device according to claim 55, wherein said catalytic material is deposited on one or more carrier means in at least one of said at least three passage sections.
70. (Previously Presented) Catalytic device according to claim 69, wherein said one or more carrier means are composed of at least one of metal, ceramic, glass, other heat resistant materials, and combinations thereof.
71. (Previously Presented) Catalytic device according to claim 69, wherein said one or more carrier means include a shape which is at least one of spherical, cylindrical, quadrangular, as saddle, ring, regular, and irregular.
72. (Previously Presented) Catalytic device according to claim 69, wherein said one or more carrier means include a number of regular or irregular balls in layers across one of said passage sections, each layer being positioned perpendicularly between two adjacent pipes, and each of said layers comprising 2 to 6 balls.

73. (Previously Presented) Catalytic device according to claim 69, wherein said one or more carrier means include monoliths or fibers.

74. (Previously Presented) Catalytic device according to claim 73, wherein said fibers deposit with said catalytic material form a tangled bundle of fibres partly or totally filling one or more of said passage sections.

75. (Previously Presented) Catalytic device according to claim 73, wherein said monoliths or fibers deposit with said catalytic material form longitudinal monoliths or fibres inside one or more of said passage sections.

76. (Previously Presented) Catalytic device according to claim 69, wherein said main reaction passage section of said at least three passage sections comprises one or more kinds of said catalytic material deposit on said carrier means.

77. (Previously Presented) Catalytic device according to claim 69, wherein at least one of one or more inlet passage sections and one or more outlet passage sections of said at least three passage sections comprises one or more kinds of said catalytic material deposit on said carrier means.

78. (Previously Presented) Catalytic device according to claim 55, wherein one or more of said at least three passage sections comprise combined carrier means including at least one of wall flow filters, fibres, balls and monoliths.

79. (Previously Presented) Catalytic device according to claim 78, wherein said combined carrier means are positioned in continuation of each other through one or more of said at least three passages.

80. (Previously Presented) Catalytic device according to claim 55, wherein said catalytic material includes metal or metal alloys from the Platinum metal group including Platinum (Pt), Palladium (Pd), Rhodium (Rh) and combinations hereof.

81. (Previously Presented) Catalytic device according to claim 55, wherein said catalytic material includes metal oxides including at least one of Gold (Au), Platinum (Pt), Silver (Ag), Aluminum (Al), Lead (Pb), Zirconium (Zr), Copper (Cu), Cobalt (Co), Nickel (Ni), Iron (Fe), Cerium (Ce), Chrome (Cr), Tin (Sn), Manganese (Mn) and Rhodium (Rh), Oxides, and combinations hereof.

82. (Previously Presented) Catalytic device according claim 81, wherein said catalytic material includes combinations of metal or metal alloys from the Platinum metal group and metal oxides.

83. (Cancelled)

84. (Cancelled)

85. (Cancelled)

86. (Previously Presented) Catalytic device according to claim 85, wherein said main reaction passage section heat exchanges with said one or more inlet passage sections in counterflow.

87. (Previously Presented) Catalytic device according to claim 85, wherein said main reaction passage section heat exchanges with said one or more outlet passage sections in concurrent flow.

88. (Previously Presented) Catalytic device according to claim 55, further comprising at least one layer of insulation between said at least three passage sections.

89. (Previously Presented) Catalytic device according to claim 88, wherein said at least one layer of insulation is positioned between said main reaction passage section and one or more inlet passage sections of the at least three sections.

90. (Previously Presented) Catalytic device according to claim 55, wherein at least one of a cross-sectional area of said main reaction passage section is between 0.5 and 100 times a cross-sectional area of said main heat transfer passage section and the inlet or outlet passage sections of the at least three sections are between 0.5 and 100 times the cross-sectional area of said main heat transfer passage section.

91. (Cancelled)

92. (Previously Presented) Catalytic device according to claim 55, wherein at least one of said passage sections comprises one or more wall flow filters with numerous porous walls allowing the fluid quantity to penetrate through the walls.

93. (Previously Presented) Catalytic device according to claim 55, wherein further combustion material is added to the device through a fuel line connected to a fuel tank and a fuel supplying means or through adding further combustion material to the fluid quantity.

94. (Previously Presented) Method according to claim 51, wherein the method cleans exhaust gas from an internal combustion engine.

95. (Previously Presented) Method according to claim 51, wherein the method regulates or controls temperature in an exothermal or endothermal chemical reaction in an industrial chemical application.

96. (Previously Presented) Method according to claim 51, wherein the method regulates or controls temperature in fuel cells.

97. (Previously Presented) Catalytic device according to claim 55, wherein the device is disposed in connection with combustion engines in vehicles fuelled by at least one of petrol, diesel, natural gas, bottled gas, and similar fuels.

98. (Previously Presented) Catalytic device according to claim 55, wherein the device is disposed in connection with stationary combustion engines fuelled by at least one of petrol, diesel, natural gas, bottled gas, and similar fuels.

99. (Previously Presented) Catalytic device according to claim 55, wherein the device is disposed in connection with an exothermal or endothermal chemical reaction in an industrial chemical application.

100. (Previously Presented) Catalytic device according to claim 55, wherein the device is disposed in connection with fuel cells to regulate or control temperature.

101. (Previously Presented) Catalytic device according to claim 78, wherein approximately one-third of the combined carrier means comprise said wall flow filters and a remainder of the combined carrier means comprise at least one of said fibers, balls and monoliths.